

FIGURE 1

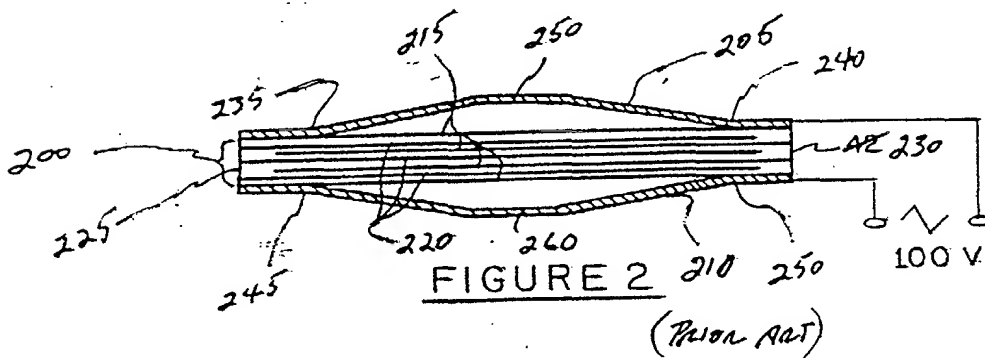


FIGURE 2

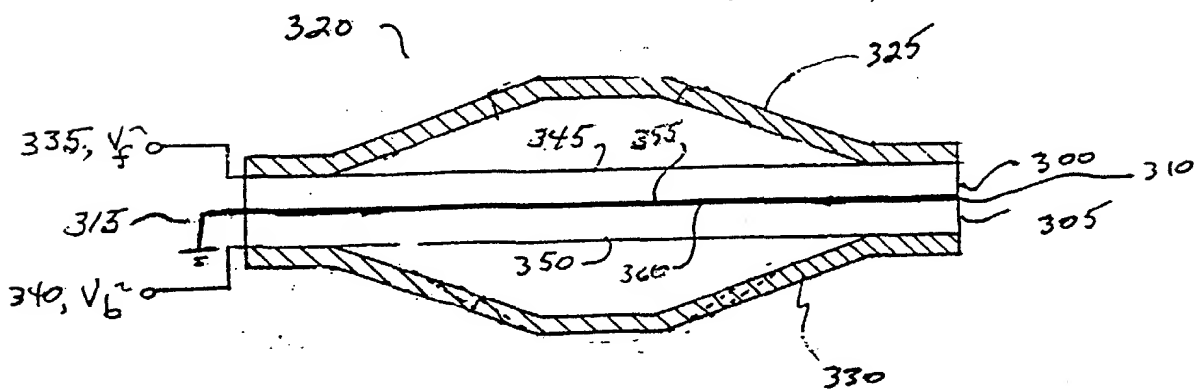


FIGURE 3

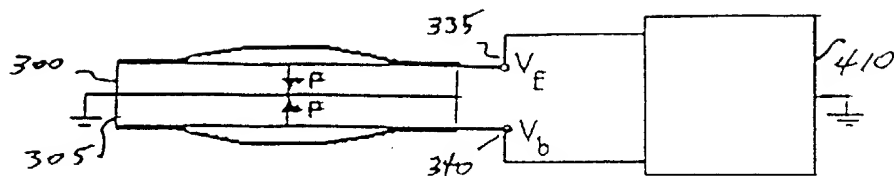


FIG. 4A

Monopole (in phase, same amplitude), $V_b = V_r = V_m$, $\varphi = 0$

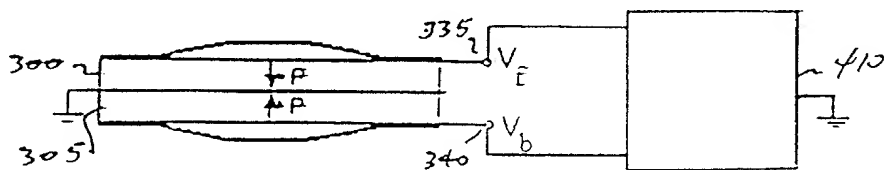


FIG. 4B

Dipole (out of phase, same amplitude), $V_b = -V_d$, $V_r = V_d$, $\varphi = \pi$

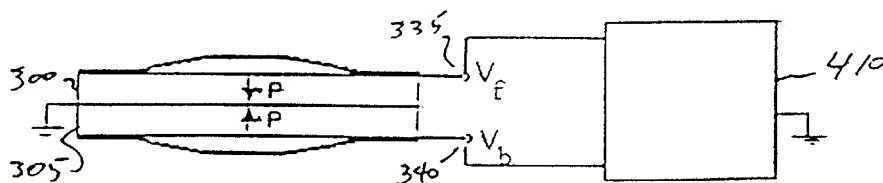


FIG. 4C

Cardioid, $V_b / V_r = (1-R) / (1+R)$, where $R = TVR_m / TVR_d$, $0 < \varphi \leq \pi$

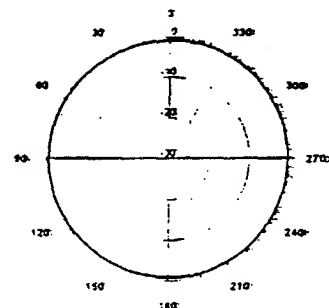


FIG. 5A Monopole mode

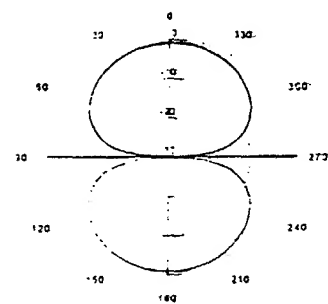


FIG. 5B dipole mode

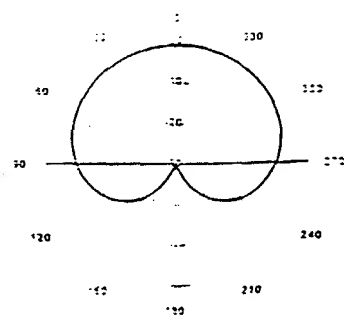


FIG. 5C cardioid mode. $V_b, V_f = (1-R)/(1+R)$, where $R = TVR_m, TVR_d$

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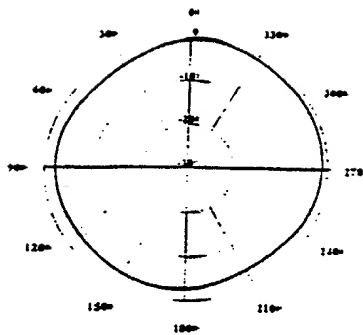


FIGURE 6A

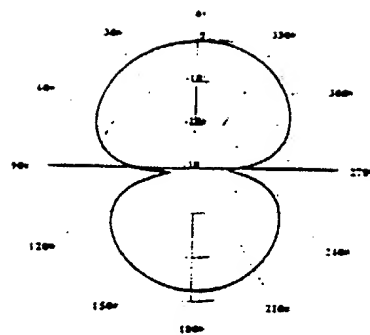


FIGURE 6B

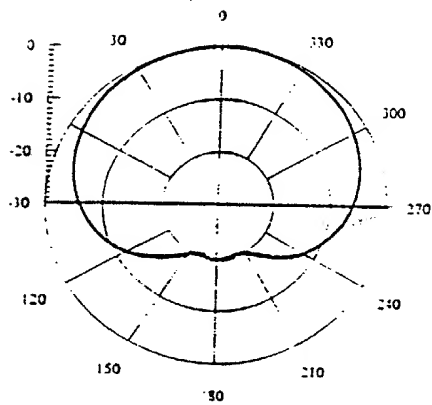


FIG. 7A

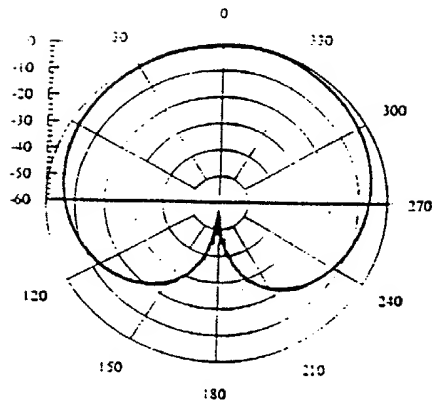


FIG. 7B

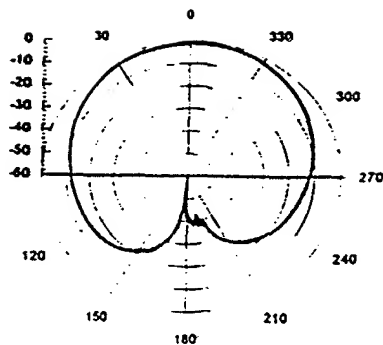


FIGURE 8A $V_f = 100 \text{ V}$, $V_b = 55 \text{ V}$, $\phi = 237^\circ$

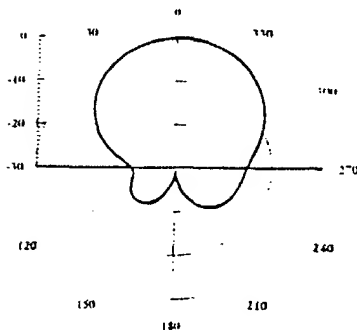


FIGURE 8B 20kHz. $V_f = 100 \text{ V}$, $V_b = 38 \text{ V}$, $\phi = 268^\circ$

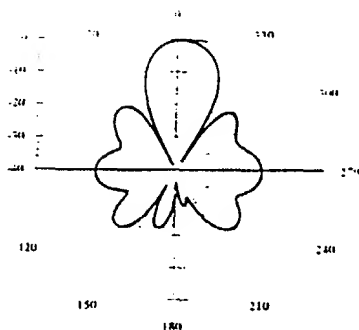
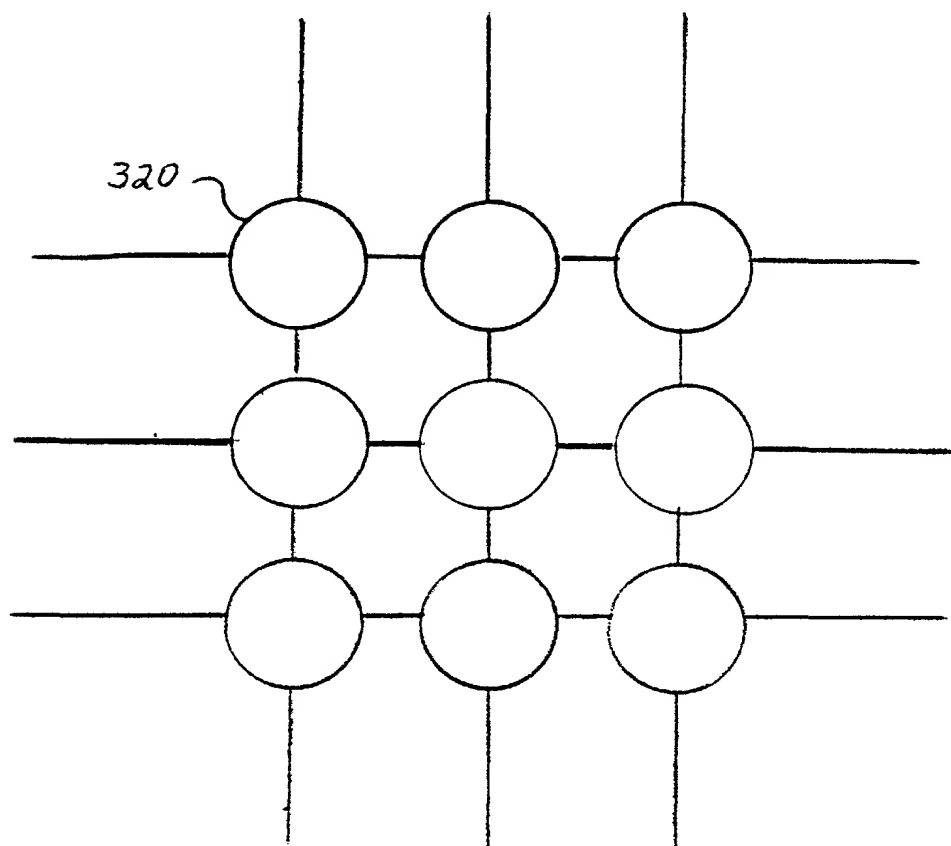


FIGURE 8C 80kHz. $V_f = 98 \text{ V}$, $V_b = 100 \text{ V}$, $\phi = 332^\circ$

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FIG. 9